



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/539,287

03/30/00

PEDERSEN

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P48D1-US

MMC2/1024

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EXAMINER

VU, Q

ART UNIT

PAPER NUMBER

2841

DATE MAILED:

10/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

## Office Action Summary

Application No.

09/539,287

Applicant(s)

PEDERSEN ET AL.

Examiner

Quynh-Nhu H. Vu

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 41, 43-46, 49, 54, 55, 57-60 and 65-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 41, 43-46, 49, 54, 55, 57-60 and 65-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

1. Applicant's amendment filed on 9/28/01 has been received and entered in the case.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 41, 43-46, 49, 54-55, 57-60 and 65-70 are rejected under 35 U.S.C. 102(e) as being anticipated by Eldridge et al. [US 6,184,053].

As to claim 65 and 70, Eldridge et al. disclose in Figs. 1A-C an electronic component comprising: a substrate (102) including a conductive area (112); masking material (104, 106, 108) formed on the substrate, the masking material patterned to form an opening corresponding to at least a portion of the conductive area and a main body portion (120); conductive material (114 or 120) deposited on the masking material within the opening and on the main body portion; the conductive material composing a contact structure comprising: a base region (122) electrically connected to the conductive area and formed within the opening; a main body region (120) formed on the main body of the masking material, the main body region integrally formed with the base region and displaced away from the substrate.

As to claims 41 and 43, the main body region comprises a curved portion and approximately parallels to a surface of the electronic component.

As to claim 44-45, a portion of the main body region is displaced from the substrate by a distance (H, see Fig. 3A) of between 4-40 mils but preferred 5-12 mils (see Table in col. 8, lines 33-50) which is in the range of 2-200 mils.

As to claims 46 and 49, Eldridge et al. clearly show the contact structure further comprises a sloped region disposed between the base region and the main body region; wherein the sloped region has an average angle of between 60-75 degrees.

As to claims 54-55, the conductive material comprises nickel (col. 6, lines 1-2 and col. 6, line 63 – col. 7, line 14).

As to claims 57-58, the substrate comprises a semiconductor device that has been singulated from a wafer (col. 3, lines 24-27 or col. 4, lines 6-12 or col. 5, lines 26-30).

As to claim 59, the substrate comprise a device selected from the group of a semiconductor device, a portion of a semiconductor wafer, a memory device (col. 5, lines 26-34 or col. 6, lines 28-33).

As to claim 60, a separate tip structure (124) joined permanently to the contact structure.

As to claim 66, Eldridge et al. disclose the masking material comprise a plurality of masking layers (104, 106, 108).

As to claim 67, the opening is tapered.

As to claim 67, the conductive area comprises a terminal (112) on a surface of the substrate.

As to claim 69, the terminal on a surface of the substrate is electrically contacted with the conductive area.

***Response to Arguments***

4. Applicant's arguments with respect to claims 41, 43-46, 49, 54-55, 57-60 and 65-70 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh-Nhu H. Vu whose telephone number is 703-305-0850. The examiner can normally be reached on 7:30-5:00 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-3301. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

QNV

October 22, 2001

A handwritten signature in black ink, consisting of stylized, overlapping letters and a long horizontal flourish extending to the right.